Computing
INTENT – To what do we aspire for our children?
-Vision   -Design   -Aspirations for our curriculum

Our Vision

'We are a Family of Friends who LEARN together.'

Our Goal

Our vision for excellence within our computing curriculum is created in line with the National Curriculum Purpose of Study and aims to provide:

- A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world.
- Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems.
- The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.
- Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content.
- Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Our intention is to:
- engage, inspire, motivate, support and challenge
- ensure our learners progress academically and become more expert as they progress through the curriculum
- develop successful, informed, engaged, thoughtful, confident learners, who make a positive contribution to the community and society – both now and in the future.

Our Values & Curriculum Drivers
At Hove Learning Federation, computing is driven by the following values:

	Love of Learning	• Enjoy immersive learning opportunities that aim for children to experience the joys of technology • Inspire children's curiosity and understanding of technology in their lives • Develop children's secure understanding of safe internet usage • Develop children's skills of enquiry through the investigation of coding, algorithms, data inputting and digital media • Encourage children's ability to think critically, reflect, debate and evaluate the truth of media they see online • Embrace the art of presentation to develop a confidence in communicating their ideas and learn from the research of others • Encourage thinking about how technology has changed over time and why • Computing lessons focus on collaboration and creativity by providing extended periods of time to work independently and with others to solve problems and develop the knowledge and skills to be computational thinkers
	Equality, Diversity & Inclusion	• Support children to be proud of their personal heritage and how this links to global citizenship online • Enable children to safely make personal connections using technology • Foster a sense of identity and an increased understanding of children's own position in their community and the world • Provide equal access to technology irrespective of a child's background • Provide children with the skills they need for the future workplace and as active participants in a digital world

	Aiming High	• Build their answers to big questions sequentially.
		• Be reflective and analytical of material online
		• Evaluate the effectiveness of technology to develop an understanding of how it can be effectively applied
		• Discuss the impact technology has had on the wider world
		• Inspire children to attain high standards by introducing purposefully chosen, aspirational leaders of the technology industry
	Respect and Well-being	• Online safety is integrated throughout the computing curriculum
		• Children learn how to use technology safely and respectfully
		• Children work collaboratively to problem solve
	Nurture and Citizenship	• Children learn skills which are central to living in and understanding our digitally enriched world
		• Develop a sense of belonging online to be a positive citizen
		• Understand how developments in technology have affected their own community on a local, national and global scale

Our Curriculum Design
Meet the needs of every child across the whole curriculum

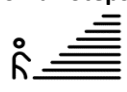| Equity	Inclusion	Learning Behaviours	Personal Development	Skills	Knowledge and Understanding	Creative and critical thinking	Cultural Capital
Equality of opportunity. All children to succeed no matter their entry point.	Every child, whatever their individual abilities or needs, is equally valued.	Attitudes and attributes for learning and life.	Equip children to become global citizens, who live happy and healthy lives and know how to achieve their goals.	Curriculum mapped to include the subject specific skills required to attain and excel. Children develop learning to learn skills such as metacognition	Deep learning of the key concepts of our curriculum and the National Curriculum.	Both are nurtured. Children are challenged to question, reason and express themselves.	Is a golden thread, woven through everything we do to teach children well.

Learning Characteristics Animals

Underpinning Hove Learning Federation's curriculum are our learning characteristic's animals.

Independence	Perseverance	Curiosity	Imagination	Co-operation

Computing Long Term Sequence
Features

Sequencing	Small Steps	Spiral	Long Term Memory	Making New Links	Cognitive Load	Key Concepts	Substantive and Disciplinary Knowledge
Our curriculum design deliberately sequences units of learning from EYFS to Year 6 to ensure children deepen their computing knowledge and understanding through exposure to a progression of substantive and disciplinary knowledge	Learning is chunked into small steps that allow children to build knowledge and deepen understanding lesson to lesson, unit to unit and year to year.	The spiral design of our curriculum means children will return to key learning points and concepts. For example, in KS1 our sequence guides children to develop an understanding that machines follow instructions, using Beebots to explore this in Year 1, and beginning to use Scratch in Year 2. They then develop this further in KS2.	The progression of knowledge in computing has been clearly mapped across each year group to ensure children will transfer new learning to long term memory. The ultimate goal is to make the learning stick!	The acquisition of knowledge into long term memory means that children are able to make links with new learning more easily. Our curriculum overview shows how new learning is carefully imparted over time.	Our long-term sequence for history reduces cognitive load by mapping out opportunities for children to review previous years and units learning. All staff are aware of the units and lessons covered in previous years in order to refer back.	Children develop knowledge about key concepts in computing which allow them to create, store, organise, manipulate and retrieve digital content.	**Substantive Knowledge** The subject knowledge and explicit vocabulary used to learn about the content. **Disciplinary Knowledge** The knowledge about how programmers code, and use algorithms to achieve an objective. It is through disciplinary knowledge that children become able to think like a programmer.

Purpose of the Sequence
Progression

Our curriculum is sequenced in line with the EYFS Statutory Framework (2021), Development Matters (2021) and the National Curriculum for Computing (2013).

Why do we have a long-term sequence? What is its purpose?

- It is our intention for children to deepen their digital literacy knowledge and understanding over time through thoughtfully sequenced exposure to a progression of substantive and disciplinary knowledge.
- Our spiral curriculum is designed on the principles of instruction and is influenced by our understanding of how the memory works and cognitive load theory.
- Research shows that this will ensure knowledge is transferred to long term memory and making links with new learning is more accessible.

EYFS:

In the Early Years Foundation Stage there is no longer Early Learning Goals directly related to computing. However, we still teach weekly computing lessons to develop our children's digital skills and to help meet the ELG in all other areas. We also aim to support children, so they have begun to acquire the digital skills needed to thrive as they begin to undertake the KS1 computing curriculum in Year 1.

KS1:

The sequence in KS1 guides children to understand and apply the fundamental principles and concepts of computer science, including abstraction, logic and algorithms and data representation. It begins with children becoming confident in using technology safely.

Children go on to develop a range of digital literacy skills including:
- Word processing (confidently navigating a keyboard, inserting images)
- Using paint to create and make shapes

They also learn to use technology purposefully to create, organise, store, manipulate and retrieve digital content. This involves data handling using tally charts, pictograms, grouping and excel spreadsheets.

They then explore programming through the use of Bee Bots and then moving on writing algorithms and debugging through programmes such as Hour of Code and Scratch. Through this, children learn what algorithms are and how they are implemented as programs on digital devices and that programs execute by following precise and unambiguous instructions. Through this inclusive exposure, children recognise common uses of information technology beyond school and learn skills which will enable them to access developing technologies in the future.

Lower KS2:

The sequence in lower KS2 builds on the skills taught in KS1 and children learn to develop their programming skills, consider how technology impacts their lives and learn how to handle data. They also learn the fundamentals of word processing. Lessons explore coding, debugging, algorithms, formatting, data collection, as well as sending and receiving emails. Children also develop their understanding of how to use technology safely.

Children develop their digital literacy skills including:

- Formatting
- Typing
- Inserting Images
- Layout Changes

Children use Scratch to develop their programming skills learning how to add graphics and repetition. Children also use Garage Band to create beats, produce music and explore how technology can impact their lives.

Upper KS2:

The sequence in upper KS2 builds on the skills taught in lower KS2 and children further develop their programming skills, further consider how technology impacts our lives and learn how to manipulate data. They also learn how search engines work and how to use them safely and effectively. Lessons further explore coding, debugging, algorithms, formatting, data collection, as well as using design software to design buildings. Children also develop their understanding of how to use technology safely.

Children develop their data collection skills including:

- Data Analysis
- Number Operations
- Ordering and Presenting
- Add, edit and calculate
- Problem Solving

Children use Scratch to develop their programming skills in character design, adding effects, scrolling and levelling. Children also use I Movie to create films and explore how technology can impact their lives.

WEST HOVE INFANT SCHOOL
A family of friends

HLF Long Term Plan
Example

Our curriculum starts in EYFS and ends in Y6. Our long-term plans include the unit, concept question, substantive concepts and small step, lesson by lesson progression.

HLF LONG TERM PLAN YEAR 2023 - 2024

		EYFS	Y1	Y2	Y3	Y4	Y5	Y6
AU1	Unit	Digital Literacy (Mouse Skills):	Online safety & Digital Literacy:	Programming/Computer Science	Online safety & Digital Literacy:	Online safety & Digital Literacy:	Online safety & Digital Literacy:	Online safety & Digital Literacy , Technology in our lives:
	CQ	Controlling the cursor, clicking and click and drag.	E-safety Typing and navigating the keyboard Opening and saving an application	Building simple codes using Hour of Code and Scratch	• Intro to Google Classroom • Online Bullying • Online purchases • E mailing	• Cyberbullying • Searching • Sharing • Being part of a community	• Spam e mails • Citations • Passwords • False photographs	• Cyberbullying • Secure Websites • People Online • Stereotypes • SMARThats • Travelblogging • Google Docs
	Steps	1) Using a mouse to move a cursor around the screen 2) Left button clicking 3)Click and Drag	1)How can I stay safe online? 2) To find and use the keys on the keyboard. To use both hands when typing on the keyboard. 3) Loading app, Minimising, restoring, moving and restoring windows. 4) Finding and opening a saved document. Using graphics tools. 5) Using graphics tools. Saving and naming a document	1) To give clear instructions to each other. 2) To understand how to input instructions into BB. To understand that BB's work by following clear instructions. To understand that instructions have to be correct or the BB won't work. 3) To explore Hour of Code. To begin building simple codes to solve problems in a game. 4) To understand the vocabulary used in Scratch. To pick a sprite and a background. To build simple codes. To name and save our work. 5) To build simple codes. To follow our task bookmark. To move our sprites. 6) To animate a story on scratch. To use logical reasoning to predict the behaviour of simple programs.	What is cyber bullying? Adverts online Passwords Online communication Party planners	Cyberbullying Searching Copycats Sharing Community Cyber superheroes	IALT identify spam emails and what to do with them. IALT write citations for the websites I use for research. IALT how to create strong passwords. IALT recognise when, why and how photographs we use online may have been edited. IALT apply online safety rules to real-life scenarios.	I can find similarities and differences between in-person and cyberbullying. I can identify secure websites by identifying privacy seals of approval. I understand the benefits and pitfalls of online relationships. I can identify information that I should never share. I can identify how the media play a powerful role in shaping ideas about girls and boys. I can apply my online safety knowledge to my online activities. I can use my knowledge of online safety to create a multiple choice quiz.
AU2	Unit	Digital Literacy (Picture Making)	Digital Literacy (Christmas card):	Programming/Computer Science	Programming/Computer Science (We are Programmers):	Programming/Computer Science (Software Developers):	Programming/Computer Science (We Are Game Developers)	Handling Data:

HLF Subject Progression Ladders

Our Subject Leads created our Subject Progression Ladders to ensure the National Curriculum is taught step by step. They illustrate the progression of skills, knowledge and vocabulary taught through EYFS, Key Stage 1 and Key Stage 2.
Breaking down the National Curriculum objectives allows our teachers to plan for progression and provide all of our learners with the small steps they need. Identifying knowledge and skill progression in this way enables our teachers to plan an ambitious and effective spiral curriculum through the key stages which results in long term learning.
Subject and Year Leads use the Subject Progression Ladders to design and plan assessments and for monitoring.
They illustrate the progression of skills, knowledge and vocabulary taught through EYFS, Key Stage 1 and Key Stage 2.

	Year R (Subject: Past & Present)		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Nursery	Reception						
	By the end of Reception: They know some similarities and differences between things in the past and now, drawing on their experiences and what has been read in class. They understand the past through settings, characters and events encountered in books read in class and storytelling.		By the end of KS1: Children should develop an awareness of the past, using common words and phrases relating to the passing of time. They should know where the people and events they study fit within a chronological framework.		By the end of Key Stage 2, children: Pupils should continue to develop a chronologically secure knowledge and understanding of British, local and world history, establishing clear narratives within and across the periods they study.			
Chronological Understanding		Sequencing of the school day. Visual timetable. Measure short periods of time.	Place known events and objects in chronological order.	Describe where the people and events studied fit within a chronological framework. Add people, events and dates to timelines. Sequence events which are close together on a time frame. Begin to make links between events and how they led on to one another.	I know that the past can be divided into different periods of time	I can place events, artefacts and historical figures on a time line, using dates	I can compare some of the times studied with those of the other areas of interest around the world.	I can use dates and terms accurately when describing events
		Recall changes that have happened in their own lives.	Describe events and recount changes within living memory. Describe memories and changes that have happened in their own lives.	Describe in detail events and recount changes within living memory.	I can order some key events in history and understand the concept of change over time and represent this on a timeline	I can sequence events from a famous person's life, or a famous historical event/era	I can use dates and historical terms accurately when describing events.	I can describe the main changes in a period of history, using terms such as social, religious, political, technological and cultural
			Begin to discuss differences about how we live now and how people used to live.	Begin to identify similarities and differences between ways of life in different periods.	Identify similarities and differences between ways of life in different periods.			I can describe the main changes in a period of history, using terms such as social, religious, political, technological and cultural.	I understand the concepts of continuity and change over time, representing them, with evidence, on a time line
			Begin to use words and phrases relating to the passing of time.	Use common words and phrases relating to the passing of time.	Show an awareness of the past, using common words and phrases relating to the passing of time. Measurements of time relating to quantities of years.				
Vocabulary	A long time ago, yesterday, tomorrow When we were younger Morning, Afternoon. Months of the year Days of the week Minutes Hours Next, Before, after that		A long time ago, yesterday, tomorrow When we were younger Morning, Afternoon. Months of the year Days of the week, minutes, hours Next, before, after that, when I was...., when my parents/grandparents	A long time ago, yesterday, tomorrow When we were younger Morning, Afternoon. Months of the year Days of the week, minutes, hours Next, Before, after that, when I was...., when my parents/grandparents	dates, time, period, era, chronology, century, decade			
					Prehistoric, Palaeolithic, Mesolithic, Neolithic, Stone Age, Bronze Age, Iron Age.	Before Christ (BC), anno domini (AD), Roman empire,	Palaeolithic, century, population, expansion, change,	

EYFS

Since the revision in 2020 the EYFS no longer has specific Early Learning Goals for Technology. However we continue to teach computing lessons at WHIS as we believe that learning technology skills support our children as digital learners both whilst in reception and as they progress through the school. We use our computing sessions to support many other areas of the EYFS, such as: mouse skills supporting Fine Motor Skills as part of Physical Development, discussions and partner work supporting Communication and Language, programming and sequencing skills supporting Mathematical Development.

Digital Literacy units about making their own book in the summer term also support Literacy Skills, Communication and Language Skills and Creative Learning. All computing units also strongly support children as creative and critical thinkers who are willing to take risks and find solutions in new experiences.

Substantive Knowledge

This is the subject knowledge and explicit vocabulary used to describe the past and the established facts that are central to this subject.

Golden Thread – 3D Curriculum
Curriculum Drivers & Substantive Concept Mapping

Our curriculum drivers (see above) and our history substantive concepts (see below) are the 'golden thread' running through our computing curriculum.

Children learn abstract concepts through meaningful examples and repeated encounters in different contexts across the curriculum. This explicit planning supports children to transfer their knowledge across the curriculum and use it to frame future learning.

This supports our work towards a 3D curriculum that promotes remembering. Our 3D curriculum is designed so that knowledge is built upon term by term, year by year and between topics across a variety of year groups. This enables our children to gain and retain more knowledge and understanding.

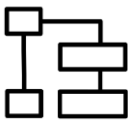| Computing 3D Curriculum		
Vertical Links	**Horizontal Links**	**Diagonal Links**
Concepts deliberately constructed within a subject that are encountered across year groups from EYFS to Y6 (for example, programming and algorithms)	Links between subjects, commonly known as cross-curricular, or themed (for example in Y5 history children learn about Mayan pyramids and then design them on Sketch Up in computing. In Year 1 in English children write instructions on how to make sandwich and then use BeeBots to provide instructions.)	Concepts connected across both year groups and across subjects (for example, in Year 5 in maths children learn data handling. In Year 6 in computing, they develop this skill using Google Sheets)
↕	↔	⤢

Substantive Concepts

The substantive concepts in computing cover the three main areas of knowledge that children will acquire through the Hove Learning Federation computing curriculum: **computer science**, **information technology** and **digital literacy including e-safety**. Children will return to these concepts year on year so that they are confident to consider and discuss the aspects within each. Through doing this they will be exposed to the subject knowledge and explicit vocabulary used to learn about the content. Common misconceptions will be explicitly revealed as non-examples and positioned against known and accurate content.

Disciplinary knowledge

Disciplinary knowledge – this is knowing how to collect, use, interpret, understand and evaluate learning through the Computing knowledge that is taught. It is not assumed that pupils will acquire these skills by luck or hope. All learning

outcomes can be described through a high-level taxonomy of ten strands, which provides categories and an organised view of content to encapsulate the discipline of computing:

Algorithms	Computer networks	Computer systems	Creating media	Data and information
Understanding, designing, creating, and evaluating algorithms.	Gaining an understanding of how networks can be used to retrieve and share information, and the potential associated risks involved with using them.	Knowing what a computer is and how its component parts function together as a whole.	Selecting and creating a range of media including: images, text, videos and sounds to inform or fulfil a given purpose.	Gain an understanding of how and why data is stored, organised and used.
Design and development	Effective use of tools	Impact of technology	Programming	Safety and security
Understand the various digital activities that are needed to plan, create and evaluate computing outcomes such as spreadsheets, data bases or printed documents.	Using software development tools, such as 'Scratch' to support computing work.	Understanding how computer systems are used in everyday life by individuals, businesses and wider society.	Creating programs that enable computers to solve problems	Understanding the risks that are involved in using technology and how children can protect themselves and others.

Local Knowledge, Enrichment & Cultural Capital

Local knowledge and community
At HLF, we value the importance of our local community. Within our curriculum our children learn about technology in our school and local area.

Enrichment
We provide enrichment opportunities that can happen inside or outside of the school but that complement classroom instruction. The aim is for our children to try new and varied activities that help to develop character, resilience, and motivation, and that encourage our children to pursue their interests and become lifelong learners. We know that enrichment activities can empower children to develop skills, discover passions, and foster a well-rounded education.

Cultural Capital
These are the opportunities such as trips, visits, local walks and interactions with members of our local community that our woven through our curriculum that give children the essential knowledge needed to be educated citizens.

For example:

- Year 2 Drusilla's trip: Children learn about animals from the Amazon jungle and use this to create a PowerPoint fact file
- Year 2 Brighton Beach trip: Children use digital photography to take photos of human physical features at the beach.
- Year 5 Brighton Beach trip: Children use their media skills to take photographs of art they have created.
- Year 6 WW2 bunker visit: Children visit a WW2 bunker and later use the experience to create a movie about evacuees.

	Implementation					
	Sequencing					

Our computing curriculum is taught across each year group in units which link to our topics. This enables our children to build a depth of knowledge, acquire and practice key skills and embed vocabulary. Each unit is strategically planned to build upon prior learning with opportunities to introduce and revisit key concepts woven throughout in order to deepen pupil understanding.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	**Digital Literacy (Mouse Skills):** • Lesson 1 -Moving a cursor around the screen • Left button clicking • Click and Drag	**Digital Literacy (Picture Making):** • Using different tools in Art programmes for a variety of effects • Enhancing Mouse Skills	**Online Learning & online safety:** • Logging on and passwords • E-safety • Using Busy Things to enhance our learning	**Programming/Computer Science (Sequencing):** • Directional movement • Sequencing instructions • Critical thinking and problem solving	**Programming/Computer Science:** • Beebots • Directional movement • Sequencing • Instructions	**Digital Literacy (Multimedia):** • Creating a book page and adding text, audio and photographs
Year 1	**Online safety & Digital Literacy:** • E-safety • Typing and navigating the keyboard • Opening and saving an application	**Digital Literacy (Christmas card):** • Word processing & inserting images	**Programming/Computer Science:** • Beebots • Algorithms and de-bugging	**Programming/Computer Science:** • Beebots • Algorithms and de-bugging **Digital Literacy:** • Using paint to create and make shapes	**Handling data** • Tally charts, pictograms, bar graphs, grouping	**Online safety & Technology in our lives:** • Staying safe, creating and searching
Year 2	**Programming/Computer Science:** • Coding, algorithms and debugging	**Programming/Computer Science:** • Coding, algorithms and debugging	**Online safety & Digital Literacy:** • E-safety, search engines and Rainforest PowerPoint	**Online safety & Digital Literacy:** • E-safety, search engines and Rainforest PowerPoint	**Handling data:** • Data	**Handling data** • Digital Photography • Taking photographs, editing and changing for purpose
Year 3	**Online safety & Digital Literacy:** • Intro to Google Classroom • Online Bullying • Online purchases • E mailing	**Programming/Computer Science :** • Coding • Debugging • Algorithms	**Digital Literacy/Technology in Our Lives:** • Google Docs • Formatting • Typing	**Digital Literacy, Handling Data:** • Google Slides • Google Forms • Data Collection • Data Manipulation	**Digital Literacy, Technology In Our Lives:** • Sending and receiving e mails	**Digital Literacy, Technology In Our Lives:** • Sending and receiving e mails
Year 4	**Online safety & Digital Literacy:** • Cyberbullying • Searching • Sharing • Being part of a community	**Programming/Computer Science:** • Scratch • Programming • Graphics • Repetition	**Digital Literacy:** • Microsoft Word • Images • Formatting • Spelling • Tables • Layout • Hyperlinks	**Handling Data/Digital Literacy:** • PowerPoint/Excel • Graphs • Data Manipulation	**Technology in our lives:** • Sequences • Drum Beats • Drum Loops • Melody • Mixing	**Technology in our lives:** • Sequences • Drum Beats • Drum Loops • Melody • Mixing
Year 5	**Online safety & Digital Literacy:** • Spam e mails • Citations • Passwords • False photographs	**Programming/Computer Science:** • Scratch • Character Design • Adding effects • Programming movement • Scoring and Levelling	**Programming/Computer Science, Digital Literacy:** • Google Earth • SketchUp • 3D Design • Dragging • Scaling • Rotating • Repeating	**Technology in our lives, Digital Literacy:** • Scratch • Tessellations • Inkscape • Geometric Art	**Programming/Computer Science, Digital Literacy:** • Google • Search Engines • Citations • Proofreading • Page Ranking	**Programming/Computer Science, Digital Literacy:** • Google • Search Engines • Citations • Proofreading • Page Ranking
Year 6	**Online safety & Digital Literacy ,Technology in our lives:** • Cyberbullying • Secure Websites • People Online • Stereotypes • SMARTbots • Travelblogging • Google Docs	**Handling Data:** • Data Analysis • Number Operations • Ordering and Presenting • Add, Edit and Calculate • Problem Solving	**Digital Literacy:** • Google Docs • I movie • Script Writing • Script Editing • Filming • Adding visual effects • Adding sound effects • Film Editing	**Programming/Computer Science (optional unit):** • Kudos • Algorithms • Gaming	**Programming/Computer Science (optional unit):** • Kudos • Algorithms • Gaming	**Programming/Computer Science (optional unit):** • Kudos • Algorithms • Gaming

Pedagogy
Key Principles for Effective Teaching & Learning at Hove Learning Federation

high expectations	quality first and adaptive teaching	developing learning behaviours	relationships and environment	quality of instruction
inspire, support and challenge	layered modelling to ensure access for all children	subject knowledge and mastery	effective questioning and feedback	making it stick' - transferring knowledge to long-term memory

Key Theories & Evidence Based Research to design lessons and units

Below are the key theories and research that underpin our approach to pedagogy and guide our curriculum design. They are used to promote high quality teaching and used in staff CPD to develop strategies that ensure consistency of standards and pedagogical understanding.

Sweller's cognitive load theory	Rosenshine's principles of instruction	Cain and Oakhill's vocabulary instruction	Maslow's Hierarch of Needs
Fiorella and Mayer's generative learning practice	Ebbinghaus' forgetting curve	Interleaving and Spacing	Bloom's Taxonomy
Retrieval Practice	Bruner's Spiral Curriculum	Pupil Book Study	Education Endowment Foundation

Assessment

Assessment opportunities are continuous and form a key part of our teaching and learning.
Formative assessment opportunities are planned in throughout our lesson model (see examples below).
Summative assessment – opportunities are planned in at the end of units and the end of the year.

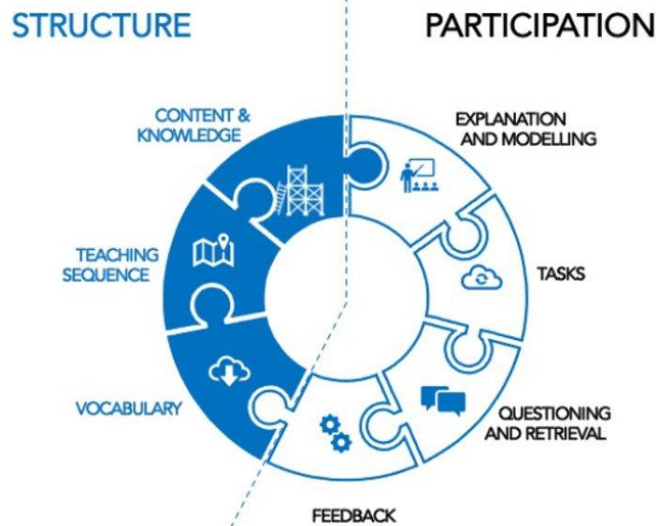| Examples of in class formative assessment opportunities				
deliberate practice and rephrasing of taught content	cumulative quizzing within the learning sequence	structured discussions in class	retrieval and recall	explaining and challenge partner talk
self and peer assessment	teacher feedback and summaries	diagnostic questioning	higher order thinking and exit tickets	summarising and explaining the Thinking Question from the sequence
rephrasing and thinking out loud	key vocabulary use and application	Professor Prove It	Deep Diver and Submarine challenges	lesson to lesson, unit to unit, term by term, end of year feedback & concept questions

Mapping and Planning – 7 Lenses

Alex Bedford's Pupil Book Study approach to quality assuring the curriculum helps us to evaluate curriculum structures, teaching methods, pupil participation and response through a dialogic model.

When evaluating our curriculum design in this way, we ask the following key questions:

- How well do our children remember the content that they have been taught?
- Do books and children discussions radiate excellence?
- Does learning 'travel' with our children and can they deliberately reuse it in more sophisticated contexts?

To ensure our monitoring is thorough and targeted, we identify what is helping and hindering by looking at structure and participation (see table below).

STRUCTURE
PARTICIPATION
CONTENT & KNOWLEDGE
EXPLANATION AND MODELLING
TEACHING SEQUENCE
TASKS
VOCABULARY
QUESTIONING AND RETRIEVAL
FEEDBACK

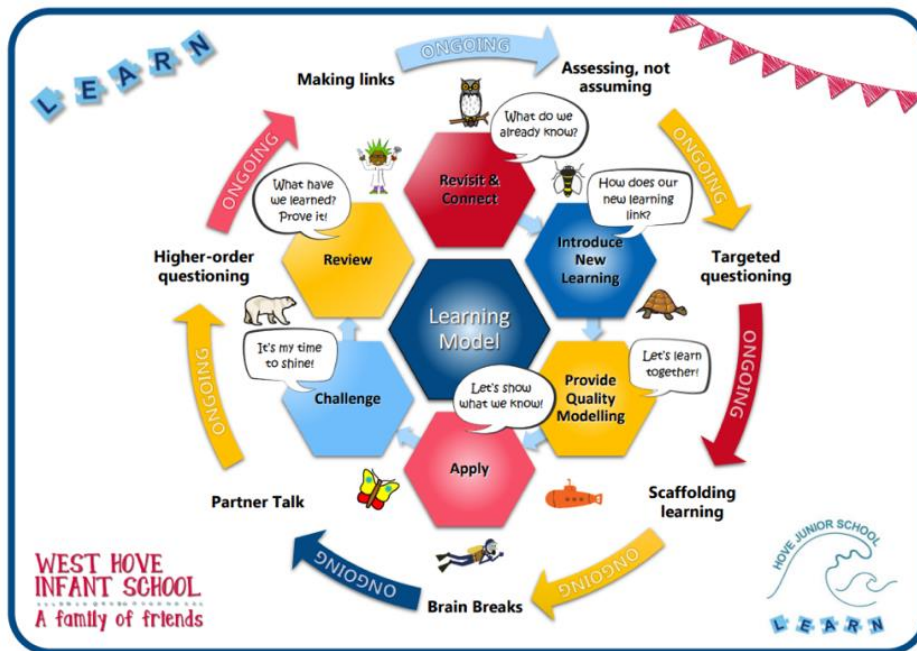| Pupil Book Study 7 Lenses						
STRUCTURE			PARTICIPATION			
Content and Knowledge	Teaching Sequence	Vocabulary	Explanation and Modelling	Tasks	Questioning and Retrieval	Feedback

Lesson Structure/Model

Learning Model: The Enacted Curriculum

To ensure constant quality-first teaching across the curriculum we have developed the Hove Learning Federation Learning Model. As illustrated in our visual guide below, each stage of the model has been carefully crafted on the most up to date evidence based research. It is a model designed to give enable all children to:

- Revisit prior learning from previous lessons and linked units from past terms and years.
- Make links with this learnt knowledge and new learning.
- Access new learning through skilled teacher modelling.
- Apply new understanding and skills with partner and independent work.
- Experience challenge at their level.
- Review the learning for that day and be guided to see how their understanding has deepened.

Teachers do not make assumptions about children's understanding but use a range of Assessment for Learning strategies to adjust lesson content and pace so that they are delivering the right knowledge and skills for the children they have in front of them. Learning is scaffolded to be inclusive to all and brain breaks and partner talk keep the learning engaging, accessible and challenging. Higher order questioning is used to guide children to make links and encourage considered thinking.

Staff receive regular CPD on each element of the Learning Model. Areas for development are pinpointed through monitoring and targeted for improvement.

Environment and Resources

We utilise a variety of high-quality images and diagrams within the teaching resources we provide for our children. These are carefully designed and dual coded to minimise cognitive overload and allow each child access to their learning in the most inclusive way. Wherever possible we use inspiring images, that can be zoomed in on to explain difficult concepts, and that spark discussion and challenge thinking. The use of all resources is modelled carefully by teachers so that every child knows how to succeed in each lesson.

Enrichment Opportunities

Our topic lead curriculum allows us to create learning sequences in computing that ensure cultural capital and enrichment.

Where possible we develop children's skills of enquiry through the investigation of:

- Access to a range of technology (BeeBots, I-pads, Chromebooks etc.)
- Online sources (Google Classroom, Scratch, Hour of Code)
- Real life stories (Terrific Tech Slides.)

Diversity and Identity across the Computing Curriculum

Through our planning and curriculum mapping, we celebrate the diversity within our community and the wider world and develop confidence in individual identity through our tailored curriculum. We promote equality and use examples of where this has not always been the case in the past to support learning and promote tolerance. In our online safety lessons, we stress the importance or creating a tolerant, inclusive and safe digital world for all. We highlight a diverse range of role models so that children can be exposed to people of different backgrounds.

SEND & Inclusive Learning

We adapt the curriculum to meet the needs of all our children so that everyone can access the learning, build on their prior knowledge, and understand the skills needed to become competent users of technology.
We do this by:

	Adjusting technology set ups for Children with SEND needs who require technology adaptations due to visual impairments, motor control and hearing support.
	-Identifying the CRITICAL CORE CONTENT that pupils with SEND need to know and use.
	-CHUNKING knowledge and knowledge notes/models in manageable sections
	-Teachers use structured RESPONSIVE FRAMEWORKS (including the use of stem sentences and sentence stems) to promote hard thinking
	-Teachers use structured DELIBERATE PRACTICE to increase attention and retention
	-Pupils with SEND are entitled to think hard. We use structured CHALLENGE FRAMEWORKS to promote hard thinking, drawing on the content, including explain the word connections and sequenced thinking paths
	· Dual coding (using CIP and symbols from the Noun Project) is used to pre-teach tier 2 and 3 vocabulary and is included on all lesson slides, core knowledge files and knowledge strips in Key Stage 2, and all activity sheets in Key Stage 1.
	· Higher level challenge partners and talking trios are used to ensure children with SEN and or EAL are provided with high quality talk and modelled language of history skills.
	· Activities ensure children with SEN or EAL can access tasks appropriately and share their understanding of historical concepts.

	· Differentiation and scaffolds are included where appropriate to enable access to learning and ensure children make at least expected progress.
	· Pictures and quotes are taken from children with SEN and or EAL to ensure evidence is recorded in books and on The Portal (EYFS)
	· EEF 5-A-Day approaches/strategies are reviewed and incorporated into our lessons 1 – explicit instruction, 2 – cognitive and metacognitive strategies, 3 – scaffolding, 4 – flexible grouping, 5 – using technology

Impact – How do we know our curriculum is effective?
Evidencing the standards of Teaching and Learning

In order to identify the impact our curriculum is having on our pupils, we check the extent to which learning has become permanently embedded in children's long-term memory in addition to looking for excellence in their outcomes. At HLF, we use a number of tools to quality assure the implementation and impact of our curriculum such as:

- Pupil Book Studies (Subject Reviews & Shallow Splashes)
- Subject Meetings
- Subject analysis & Action plans
- Formative and Summative Assessment
- Learning observations/drop ins (subject lead, year/phase lead and SLT)
- CPD for all staff
- Governors
- Recent successes
- Next steps

Hove Learning Federation Impact

Children leave Hove Learning Federation as deeply knowledgeable and skilful learners who can set targets and believe in themselves to achieve them. They understand how to be socially, morally, spiritually and culturally responsible and aware. They are able to make positive contributions to the local and wider community and strive to be the best that they can be.

Learning Behaviours	Emotional	Names and expresses emotions Manages impulses of personal behaviour	Shows price in successes	Social	Focuses on learning in class Attentive to directions, listening to the teacher	Shows empathy and appreciates diversity	Cognitive	Organises time and space for own learning Sets goals and monitors own progress	Talks purposefully with peers, valuing other opinions
Attitudes to Learning	Love of Learning and lifelong learners	Positive	Curious and Inquisitive	Independent	Able to work in teams	Motivated and Hardworking	Resilient	Proud	Ready for secondary school
Quality of Education	Evidence of learning	Attainment	Progress	Skills, knowledge and understanding	Personal Development	Relationships between pupils and staff	Learning atmosphere and environment	Professional Development	School Improvement

Pupil Book Studies – Subject Reviews & Shallow Splashes

At HLF, we have created our own monitoring systems that incorporate the key principles from the Pupil Book Study (see

lip/PowerPoint and planning look	• Planning for small steps • Progress and learning over time • Knowledge and skills based • Child centred, active learning • Consistency with the use of the HLF Learning Model across year groups and sites
Book Look	• Shows progress of knowledge and skills • Shows development of learning and understanding • Demonstrates a clear sequence of learning • High expectations, consistency and pride in work
Pupil Voice	• Use precise vocabulary • Show a deep understanding of the learning • Are enthusiastic about their learning • Talk through the learning sequence • Highlight how the learning builds lesson to lesson and unit to unit

'Implementation'). They are called Subject Reviews and Shallow Splashes. Through this form of monitoring, we quality assure each subject by carrying out:

1) Learning walks – subject teams and SLT support teaching and learning and record positives and good practice to share and inspire
2) Flip/PowerPoint and planning looks – to check planning & resources meet the needs of all of our learners. We check against our lesson model, Rosenshine's Principles of Instruction and the key theories & research that underpin our teaching philosophy
3) Book looks - to check for incremental small steps, sequencing, task design, scaffolds, personalisation, knowledge & skill progression, vocabulary, access, support & challenge
4) Pupil voice – to discuss the learning and see the subject through the eyes of the child. Part of our questioning is designed to assess the impact of our lessons, that they provide enjoyment, that children can articulate their learning with key vocabulary and that learning is 'sticking' in the children's long-term memory

Findings from our monitoring systems are categorised into positives and next steps. These can be specific to year group, to key stage or whole school (across the 3 sites). To ensure next steps are acted on, subject and year teams identify actions and assign responsibility. This monitoring feeds into our subject analysis and action plans (see 'Subject analysis and Action plans' below).

Subject Meetings

Subject team meetings are timetabled regularly throughout the year. Time is set aside during staff meetings, INSET days and yearly meetings with SLT. The aims of these meetings are to:

- Review current practise and impact
- Set targets, identify actions, and create plans
- Discuss the latest research and evidence to ensure our subjects are up to date and plans are in place to progress
- Work towards our school key priorities
- Give time to professional development and to offer support to our teachers

Subject analysis & Action plans

Each subject has an action plan for the academic year to monitor change and progress across a variety of objectives and goals within multiple areas (e.g., student, classroom, professional development, etc.). Using our school key priorities as a guide, our teams review and RAG their subjects throughout the year and set new targets each term. Each target is a story arc that shows

how a subject leader has identified a next step, actioned it and reviewed the impact so that subject development is continuous and effective.

Each subject team uses the table below to reflect, plan, set actions, assess impact and discuss next steps.

What did you notice? (Why did you set this target?)	Action (What will you do?)	Intended Impact (What will this look like?)	Responsibility	By when	Evidence for Monitoring

Formative and Summative assessments

Our assessment structures are designed to ensure that our children will know more, remember more and be able to do more. A mixture of formative and summative assessments allows us to evaluate if our curriculum helps or hinders the goal of achieving persistent change in the long-term memory of our children.

Formative Assessment

We assess formatively throughout each lesson using our learning model (see 'Implementation' section). This tool ensures each lesson is planned and delivered to maximise assessment opportunities. Teachers use this information to support, challenge and adapt the learning.

Each subject assesses in a range of different ways (see 'Implementation' section).

Summative Assessment

Our curriculum is a progressive, spiral model. Teachers use deliberate summative assessment to measure if children are making progress as they journey through the curriculum. The range of summative assessment methods that teachers use build a picture of children's understanding of:

- Content and knowledge
- Use of vocabulary
- Ability to access the curriculum and thrive

All information gained from assessments are used to tailor, target and adapt future planning, teaching and learning.

Continuous Professional Development for all Staff

'High quality teaching improves pupil outcomes, and effective professional development offers a crucial tool to develop teaching quality and enhance children's outcomes in the classroom.' - EEF

Through each element of the monitoring process described above and assessments, subject leads know how well their subject is being taught and areas for development. As a result, staff meetings and inset days are carefully considered to provide a range of tailored CPD opportunities guaranteeing consistency of expectations and practice, and ensuring the highest quality teaching is taking place to improve pupil outcomes. The content of this CPD is then factored into year group meetings for year group teams to explore further over time.

As a school, we use a range of development methods to meet the needs of our staff. This includes:

- 1:1 using mentoring or coaching
- Guided collaborative group work
- Use of research based think pieces
- Professional modelling

Governors

Our governors are with us on every step of our curriculum journey. They are critical friends who ask key questions, investigate patterns within the data, and support and challenge our reasoning when creating systems and devising new strategies. Subject teams are given opportunities to feedback to governors about their subject development and planned next steps. The purpose of this close relationship is to ensure governors have an in-depth understanding of what is happening in the classrooms so that they can play an active role in school development. SLT work closely with governors so that there is a shared understanding of how high quality teaching is improving pupil outcomes at Hove Learning Federation and that these successes are celebrated.